Remarks/Arguments

In amended Figure 2A, the previous element "centrifugal fan 205" has been amended to show the profile of its essential component "impellers", making the differentiation with "a conventional propeller fan".

In amended Figure 2B, to show the profiles of "front quarter-cylindrical movable canopy 219" and "back quarter-cylindrical fixed canopy 221", the previous element "half-cylindrical adjustable canopy 217" has been amended. To show the "sloping" profile of the four side walls, the particle-conducting basin 213 has been amended.

Claims 1-9, and 12-16 remain in this application. Claims 10-11, and 17-39 have been cancelled. Claims 40-44 have been added according to a preferred embodiment of the present invention, which is presented in Figures 2A-2B of the specification.

Applicant has thoroughly reviewed the outstanding Office Action including the Examiner's remarks and the references cited therein. The following remarks are believed to be fully responsive to the Office Action and, when coupled with the above amendments, are believed to render all claims at issue patentably distinguishable over the cited references.

Applicants respectfully request reconsideration in light of the following remarks.

CLAIM REJECTIONS- 35 USC § 102

With respect to page 2 of the Office Action, the Examiner rejected Claim 1 under 35 U.S.C. 102(b), second paragraph, as being clearly anticipated by Miglino (Australian patent, Acceptance No. 653316).

Applicant respectfully traverses these rejections.

Firstly, referring to Figures 1-2 and paragraphs 1-3, pages 7-8 in Miglino's specification, the working space in the fume cabinet 2 is defined by a rear opaque wall 11, an opaque top portion 12, two opaque side portions 13-14, a clear window 15, a clear door 16 and a pair of sinks 42,44. Further, a drainage outlet 46 and a drainpipe 48 are arranged in the bottom of the sink 42 for discharging spent sterilizing fluid from the sink 44; and a vent arrangement 50, which is directed to a motor 56 and fan 58, is arranged immediately above the top of sinks 42, 44 along their respective rear top edge.

Secondly, referring to Figures 2A-2B, lines 17-20 on page 4, and lines 3-15 on page 7 of the application, the working space 227 in the clean bench 200 is defined by a half-cylindrical adjustable canopy 217 and a particle-conducting basin 213. In the lower portion of the working space 227, the particle-conducting basin 213 is composed of a bottom partition 215 and four side walls with a sloping profile. The bottom partition 215, through which airflow can pass to the fan-filter unit 203 freely, e.g. a grate or lattice, is provided. And the sloping design of the four side walls makes better conduction of the airflow,

lowering the opportunity for particles to be collected in the dead spaces of the particle-conducting basin 213.

Therefore, the bottom structure and its function of the particle-conducting basin 213 in the application are very different with the sinks 42, 44 of Miglino's invention. The particle-conducting basin 213 is arranged for conducting the particles and then being directed to the fan-filter unit 203, but the sinks 42,44 are arranged to provide a space for sterilizing operation and the spent sterilizing fluid will be discharged by a "small" drainage outlet 46.

Applicant has made a minor amendment to claim 1 for making an obvious differentiation with Miglino according to lines 3-9, page 7 of the application.

CLAIM REJECTIONS- 35 USC § 103(a), first paragraph

With respect to page 2 of the Office Action, the Examiner rejected Claims 2-6 under 35 U.S.C. 103 (a) as being unpatentable over Miglino (Australian patent, Acceptance No. 653316) in view of Wonsetler (U.S. Patent, Patent No. 5,511,764).

Applicant respectfully traverses these rejections.

Firstly, a self-exhausting welding station 2 is disclosed in Wonsetler's invention, wherein a squirrel cage blower 70 and a filter means 30 are arranged under the working area for exhausting and filtering the fumes, airborne particulate matter and sparks, which are produced in a welding operation.

Secondly, claims 2-6 of the application claim the various options of fan and filter in the clean bench. A centrifugal fan could be selected as the fan in the clean bench, and a HEPA filter or a ULPA filter could be selected as the filter below the fan. In addition, a HEPA pre-filter or a ULPA pre-filter could be arranged in the clean bench above the fan.

Therefore, although there is a similarity between the squirrel cage blower 70 of Wonsetler's invention and the centrifugal fan of the application, Wonsetler's invention still fails to disclose the filters such as HEPA filter, ULPA filter, HEPA pre-filter and a ULPA pre-filter. The above-mentioned filters are suitable to be applied within a clean-room environment; and the coarse filter is sufficient to be the filter in the self-exhausting welding station 2, utilized for the general welding operations in an indoor environment.

Hence, to combine the fume cabinet of Miglino's invention with the squirrel cage blower and coarse filter of Wonsetler's invention to obtain the features of claims 2-6 of the application, is not easily done for skilled person in the art. In addition, the complicated structures will increase the opportunity for particles being collected in the dead spaces of the fume cabinet of Miglino's invention or the self-exhausting welding station of Wonsetler's invention; therefore, they are unsuitable to be used in the clean room.

CLAIM REJECTIONS- 35 USC § 103(a), second paragraph

With respect to page 3 of the Office Action, the Examiner rejected Claims 7-8 under 35 U.S.C. 103 (a) as being unpatentable over Miglino (Australian patent, Acceptance No. 653316) in view of Wilk (U.S. Patent, Patent No. 6,332,837).

Applicant respectfully traverses these rejections.

Firstly, referring to Figures 2 and 4 and lines 7-15, column 4 in Wilk's specification, a device for the removal of gas and particles formed during welding and cutting jobs is disclosed. A pyramid 20 is constructed with substantially vertical walls 20a, together with a wall portion 20b with sloping walls. The apex of the pyramid 20 is open at the top so that an opening 20c is formed. Through this opening 20c passes then a smaller pyramid 21, with the apex upwards, a distance into the pyramid 20. There are openings between the two pyramids 20, 21 on all sides. The lowest pyramid 21 is fastened to a saucer-shape portion 22. Hence, with the cooperation of the pyramids 20, 21 and the saucer-shape portion 22, the speed and the energy of the particles will be reduced.

Secondly, claims 7-8 of the application claim a particle-conducting basin which is composed of a bottom partition with plural outlets and four side walls. In the clean bench of the application, the particle-conducting basin is arranged for conducting the particles and then being directed to the fan-filter unit. The sloping design of the four side walls permits better conduction of the airflow,

lowering the opportunity for particles being collected in the dead spaces of the particle-conducting basin.

Therefore, although the profile of the pyramid 20 of Wilk's invention is similar to the four sloping side walls of the application, other "essential" elements such as the pyramid 21 and the saucer-shape portion 22 are "unnecessary" and shouldn't appear in the clean bench of the application. This is because Wilk's device is aimed for "extending the traveling path" of the particles to reduce their speed and energy, but the particle-conducting basin of the application is aimed for providing a simple and smooth conducting of the airflow and lowering the opportunity for particles being collected in the clean bench.

Hence, skilled persons in the art would not combine the fume cabinet of Miglino's invention with the exhaust device of Wilk's invention to obtain the features of claims 7-8 of the application. That is because if the two sinks are replaced with the exhaust device, the structure of the fume cabinet will become more complicated and result in increasing the opportunity for particles being collected in the dead spaces. In addition, if the vent arrangement is replaced with the exhaust device, it would be helpless for the exhaust work of the fume cabinet.

CLAIM REJECTIONS- 35 USC § 103(a), third paragraph

With respect to page 3 of the Office Action, the Examiner rejected Claims 10-11 under 35 U.S.C. 103 (a) as being unpatentable over Miglino (Australian patent, Acceptance No. 653316) in view of Volk (U.S. Patent, Patent No. 5,413,619).

Claims 10-11 have been cancelled, thus the rejection is moot.

CLAIM REJECTIONS- 35 USC § 103(a), fourth paragraph

With respect to pages 3 to page 4 of the Office Action, the Examiner rejected Claim 17 under 35 U.S.C. 103 (a) as being unpatentable over Miglino (Australian patent, Acceptance No. 653316) in view of Mai (U.S. Patent, Patent No. 5,816,906).

Claim 17 has been cancelled, thus the rejection is moot.

ALLOWABLE SUBJECT MATTER

With respect to paragraph 8 of the Office Action, the Examiner stated that Claims 9 and 13-16 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 9 depends upon claim 7. The rejection of dependent claim 7 has been rendered moot. Claims 13-16 depend upon claim 12. Claim 12 has been rewritten to include the limitations of the base claim. Accordingly, Applicant respectfully requests that the examiner's objection to claims 9 and 13-16 be reconsidered and withdrawn.

DRAWINGS OBJECTION

With respect to paragraph 10 of the Office Action, the Examiner is of the opinion that the drawings fail to comply with 37 CFR 1.83 (a) because the drawings must show every feature of the invention specified in the claims. According to the Examiner, the centrifugal fan (claim 2), the high-pressure spray gun (claim 10), and vacuum suction unit (claim 11) must be shown or the feature(s) canceled from the claim(s). The application has been amended in Figures 2A-2B.

In amended Figure 2A, the previous element "centrifugal fan 205" has been amended to show the profile of its essential component "impellers", making the differentiation with "a conventional propeller fan".

The recitation "high-pressure spray gun" and "vacuum suction unit" are recited in claims 10-11 and not presented in the drawings. The applicants have cancelled claims 10-11 Therefore, this objection is traversed.

Furthermore, in Figure 2B, to show the profiles of "front quarter-cylindrical movable canopy 219" and "back quarter-cylindrical fixed canopy 221", the previous element "half-cylindrical adjustable canopy 217" has been amended. To show the "sloping" profile of the four side walls, the particle-conducting basin 213 has been amended.

Conclusion

In light of the above amendments and remarks, Applicant respectfully submits that pending Claims 1-44 as currently presented are in condition for allowance. Accordingly, reconsideration is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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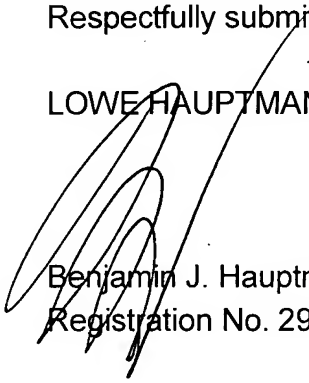

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Date: June 23, 2004